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PATENT

Attorney Docket No.
033808.172

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:) **CONFIRMATION NO.: 4589**
Francis HUMBLOT, et al.)
U.S. Serial No.: 10/088,738) Group Art Unit: 1764
Filed: July 23, 2002) Examiner: Prem C. Singh

For: REDUCTION OF THE COKING IN CRACKING REACTORS

TRANSMITTAL FOR
DECLARATION UNDER 37 C.F.R. § 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith is a Declaration from inventor Francis HUMBLOT for the above-identified patent application.

Respectfully submitted,
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By:


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Dated: February 4, 2008



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 10/088,738 Confirmation No.: 4589
Applicant : Francois HUMBLOT, et al.
Filed : July 23, 2002
Examiner : Prem C. Singh
Art Unit : 1764
For : REDUCTION OF THE COKING IN CRACKING REACTORS
Docket No. : 033808.172
Customer No. : 00441

DECLARATION UNDER 37 CFR 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Declaration of Francis HUMBLOT

1. I am familiar with the above-identified application.
2. I am an inventor of the above-identified application and well experienced in the subject field.
3. I am employed by the assignee of the above-identified application.

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4. The original specification of the application identified above teaches about the background art that applicants have discovered surprising results thereover concerning significant reduction in the formation of coke which accompanies a hydrocarbon cracking reaction.

Page 2 of the specification teaches:

Despite optimized procedures which completely remove the coke, hydrocarbon cracking units, such as steam crackers, are frequently shut down in order to be subjected to fresh decoking cycles (after operating for 20 to 60 days). Furthermore, the oxidizing decoking treatment results in an increase in the catalytic activity of the metal cracking surface, which increases the rate of formation of coke. Thus, with the increase in the number of decoking operations to which the unit is subjected, the operating time decreases and the annual number of decoking operation increases. This long-term effect is technically and economically harmful since the maintenance costs become increasingly burdensome with the age of the unit for a lower annual operating rate.

Page 4, beginning at line 6, further teaches about US Patent No. 5,656,150:

4) Patents US 4,692,243, US 5,565,087, US 5,616,236, US 5,656,150, EP 698,652 and EP 770,665 all relate to a method for reducing the formation of coke in a hydrocarbon cracking tube. This method employs a silicon compound as a mixture with a tin compound. Some improvements have been made to it, such as the use of a reducing gas as carrier fluid for pretreating the cracking tube (Patent US 5,616,236) or the cracking of a desulphurized feedstock (Patent EP 770,665). This type of treatment remains expensive and the long-term effects of the tin on the metallurgy of the cracking tube and in the downstream sections are not known.

Page 5 of the specification teaches:

Surprisingly, it has now been found that an additive composed of a mixture of sulphur compound and of silyl compound can be used to pretreat a hydrocarbon cracking tube in steam and thus to significantly reduce the formation of coke which accompanies the hydrocarbon cracking reaction.

These teachings in the original disclosure convey that the present invention did not teach use of a silicon compound as a mixture with tin compound because methods utilizing such compounds remains expensive and the long term effects of the tin on the metallurgy of the

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crackling tube and in the downstream sections are not known, so that the present process reduces coking with silicon containing sulfur compounds in the absence of tin.

I declare that all statements made herein of our own knowledge are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both, under §1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Respectfully submitted,

February 4th, 2008

Date

Francis HUMBLOT

Francis HUMBLOT